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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/613,421	07/02/2003	Lucy M. Bull	005950-811	5150
21839	7590	12/28/2004	EXAMINER	
BURNS DOANE SWECKER & MATHIS L L P			GRIFFIN, WALTER DEAN	
POST OFFICE BOX 1404			ART UNIT	
ALEXANDRIA, VA 22313-1404			PAPER NUMBER	
			1764	

DATE MAILED: 12/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/613,421

Applicant(s)

BULL ET AL.

Examiner

Walter D. Griffin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 July 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>012704 (2)</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities: On page 1 of the specification, three serial numbers are missing. On page 6, the brief discussion of Figure 2 needs to be changed to reflect the presence of Figures 2A and 2B.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 6, 12-16, 18, and 20-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Loughran (US 2,651,655).

The Loughran reference discloses a process for removing contaminants from an F-T derived hydrocarbon stream. These contaminants are present as a result of contamination from the catalyst and metallic apparatus employed in the F-T process, are dissolved in the hydrocarbon stream, and would necessarily include inorganic contaminants as claimed. The process comprises passing the synthesis gas to an F-T reactor to produce a hydrocarbon stream. This stream is then passed to an adsorption zone containing an ion exchange medium where the stream contacts the ion exchange material to remove the contaminants from the stream. The ion

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exchange material may be a clay. The stream is then passed from the adsorption zone to a hydroprocessing reactor. The hydrocarbon stream is also subjected to a distillation step. It is apparent from the figure that the process is operated as a continuous process. See column 1, lines 11-24 and 40-55; column 2, lines 1-42; column 3, lines 7-36; and column 5, line 19 through column 7, line 23.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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Claims 7-11, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Loughran (US 2,651,655).

The Loughran reference discloses a process for removing contaminants from an F-T derived hydrocarbon stream. These contaminants are present as a result of contamination from the catalyst and metallic apparatus employed in the F-T process, are dissolved in the hydrocarbon stream, and would necessarily include inorganic contaminants as claimed. The process comprises passing the synthesis gas to an F-T reactor to produce a hydrocarbon stream. This stream is then passed to an adsorption zone containing an ion exchange medium where the stream contacts the ion exchange material to remove the contaminants from the stream. The ion exchange material may be a clay. The stream is then passed from the adsorption zone to a hydroprocessing reactor. The hydrocarbon stream is also subjected to a distillation step. It is apparent from the figure that the process is operated as a continuous process. See column 1, lines 11-24 and 40-55; column 2, lines 1-42; column 3, lines 7-36; and column 5, line 19 through column 7, line 23.

The Loughran reference does not disclose the specific clays of claims 7-11 and does not disclose that the process is performed as a batch process.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Loughran by utilizing the claimed clays because Loughran discloses that the adsorbent can be natural clays that may be treated to improve their adsorbent properties. Therefore, one would use any clays that fall within this disclosed group including the claimed clays and expect the hydrocarbon to be effectively purified.

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It also would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Loughran by operating the process in a batch mode because the hydrocarbon would be purified effectively in either a batch or continuous process.

Claims 19 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Loughran (US 2,651,655) in view of admitted prior art.

As discussed above, the Loughran reference does not disclose a filtering step.

On page 3 of the specification, applicants admit that the filtering of a stream from an F-T reactor is a conventional technique in order to remove particulates that would plug catalyst beds in subsequent reactors.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Loughran by filtering because applicants admit that such a technique is a conventional treatment for F-T products and filtering reduces the plugging of catalyst beds in subsequent reactors.

Claims 2-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Loughran (US 2,651,655) in view of Sartori et al. (US 5,976,358).

As discussed above, the Loughran reference does not disclose the use of a polymeric resin as in claims 2-5.

The Sartori reference discloses that resins as claimed can be used to adsorb metal contaminants from hydrocarbon streams. See column 1, lines 32-48.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Loughran by utilizing the resin adsorbent as

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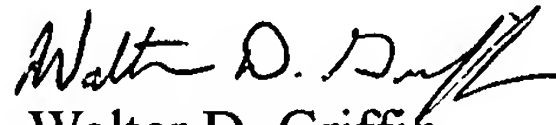
suggested by Sartori because these resins are effective for removing metal contaminants that are similar to the contaminants removed in the process of Loughran.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter D. Griffin whose telephone number is (571) 272-1447. The examiner can normally be reached on Monday-Friday 6:30 to 4:00 with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Walter D. Griffin
Primary Examiner
Art Unit 1764

WG
December 22, 2004